Claims:

1. In a machine for mowing crop materials, the improvement comprising:

a cutter bed including a series of rotary cutters extending across the path of travel of the machine and rotatable about individual, upright axes,

said series of cutters including a plurality of intermediate cutters and at least two outer cutters located outwardly beyond and at opposite ends of the plurality of intermediate cutters,

said intermediate cutters including a pair of drive cutters to which driving power is supplied for all of the intermediate cutters;

at least a pair of hydraulic motors operably coupled with respective ones of said drive cutters for supplying said driving power to the drive cutters for distribution to the remaining intermediate cutters;

power distribution means operably interconnecting all of the intermediate cutters with one another in an unbroken drive line to effect said distribution of driving power from the drive cutters to the remaining intermediate cutters;

means for supplying hydraulic fluid under pressure to said motors for operating the motors; and

means operably coupling the outer cutters with the hydraulic motors for driving the outer cutters,

said means for supplying hydraulic fluid including conduit means communicating said motors with one another during the application of driving power to the drive cutters in a manner to cause the motors to share the load of driving all of the intermediate cutters and all of the outer cutters.

2. In a machine as claimed in Claim 1,
said cutter bed further including an elongated housing located beneath the intermediate cutters,
said power distribution means being contained within said housing.

3. In a machine as claimed in Claim 2,
said power distribution means comprising intermeshing gears.

4. In a machine as claimed in Claim 3,
said means operably coupling the outer cutters with the hydraulic motors being located exteriorly of said housing.

5. In a machine as claimed in Claim 4,
each of said drive cutters having input drive shaft means operably coupling the drive cutter with its corresponding hydraulic motor,
each of said outer cutters having driven shaft means operably associated therewith,
said means operably coupling the outer cutters with the hydraulic motors comprising mechanism interconnecting the drive shaft means and the driven shaft means.

6. In a machine as claimed in Claim 5,
said mechanism including an endless, flexible drive element entrained around said drive shaft means and said driven shaft means.

7. In a machine as claimed in Claim 5,
said mechanism including a set of intermeshing gears.

8. In a machine as claimed in Claim 5,
said mechanism including a gear box on each of said drive shaft means and driven shaft means,
said mechanism further including transfer shaft means extending between the gear boxes of a drive shaft means and a driven shaft means.

9. In a machine as claimed in Claim 2,
said means operably coupling the outer cutters with the hydraulic motors being located exteriorly of said housing.

10. In a machine as claimed in Claim 9,
each of said drive cutters having input drive shaft means operably coupling the drive cutter with its corresponding hydraulic motor,
each of said outer cutters having driven shaft means operably associated therewith,
said means operably coupling the outer cutters with the hydraulic motors comprising mechanism interconnecting the drive shaft means and the driven shaft means.

11. In a machine as claimed in Claim 10,
said mechanism including an endless, flexible drive element entrained around said drive shaft means and said driven shaft means.

12. In a machine as claimed in Claim 10,
said mechanism including a set of intermeshing gears.

13. In a machine as claimed in Claim 10,
said mechanism including a gear box on each of said drive shaft means and driven shaft means,

said mechanism further including transfer shaft means extending between the gear boxes of a drive shaft means and a driven shaft means.

14. In a machine as claimed in Claim 1,
further including means defining a crop discharge opening behind the cutter bed for receiving crop materials cut by the series of cutters,
said discharge opening having a pair of opposite ends,
said drive cutters being located adjacent said opposite ends of the discharge opening.

15. In a machine as claimed in Claim 14,
each of said drive cutters being provided with upright, input drive shaft means for receiving driving power from the hydraulic motors,
said input drive shaft means being located outboard of said opposite ends of the discharge opening.

16. In a machine as claimed in Claim 15,
each of said outer cutters being provided with upright, driven shaft means located outboard of the input drive shaft means,
said means operably coupling the outer cutters with the hydraulic motors including mechanism interconnecting the drive shaft means and the driven shaft means.

17. In a machine as claimed in Claim 16,
said cutter bed further including an elongated housing located beneath the intermediate cutters,
said power distribution means for the intermediate cutters being contained within said housing,

said mechanism interconnecting the drive shaft means and the driven shaft means being located externally of said housing.

18. In a machine as claimed in Claim 16,
said mechanism including an endless, flexible drive element entrained around said drive shaft means and said driven shaft means.

19. In a machine as claimed in Claim 16,
said mechanism including a set of intermeshing gears.

20. In a machine as claimed in Claim 16,
said mechanism including a gear box on each of said drive shaft means and driven shaft means,
said mechanism further including transfer shaft means extending between the gear boxes of a drive shaft means and a driven shaft means.

21. In a machine as claimed in Claim 1,
said cutter bed including an elongated housing located beneath the intermediate cutters and containing said power distribution means,
said means operably coupling the outer cutters with the hydraulic motors being located externally of said housing,
said cutter bed further including a pair of supports fixed to and extending outwardly from opposite ends of the housing,
said supports being located beneath said outer cutters.

22. In a machine as claimed in Claim 21,
said power distribution means comprising intermeshing gears.

23. In a machine as claimed in Claim 21,
each of said outer cutters having upright driven shaft means rotatably supported by said support,
said means operably coupling the outer cutters with the hydraulic motors including mechanism operably connected to said driven shaft means.

24. In a machine as claimed in Claim 23,
each of said drive cutters having input drive shaft means operably coupling the drive cutter with its corresponding hydraulic motor,
said mechanism being operably connected between the drive shaft means and the driven shaft means.

25. In a machine as claimed in Claim 24,
said mechanism including an endless, flexible drive element entrained around said drive shaft means and said driven shaft means.

26. In a machine as claimed in Claim 24,
said mechanism including a set of intermeshing gears.

27. In a machine as claimed in Claim 24,
said mechanism including a gear box on each of said drive shaft means and driven shaft means,
said mechanism further including transfer shaft means extending between the gear boxes of a drive shaft means and a driven shaft means.

28. In a machine as claimed in Claim 14,
further including a conditioner behind said opening for conditioning the crop materials passing through said opening.

29. In a machine for mowing crop materials, the improvement comprising:

a cutter bed including a series of rotary cutters extending across the path of travel of the machine and rotatable about individual upright axes;

power distribution means below said cutters operably connecting the cutters with one another for transferring power between the cutters;

upright drive shaft means projecting upwardly from and operably coupled with at least one of said cutters for supplying driving power to said at least one cutter; and

power means for driving said cutters including at least one hydraulic motor operably coupled with ~~said upright drive shaft means~~.

~~30. In a machine as claimed in Claim 29,~~

said cutter bed being provided with a generally horizontally extending wall spaced above the bed,

said drive shaft means projecting upwardly through said wall,

said hydraulic motor being disposed above said wall.

31. In a machine as claimed in Claim 29,

there being a second ~~upright drive~~ shaft means projecting upwardly from and operably coupled with a second cutter in the series of cutters,

said power means including a second hydraulic motor operably coupled with said second upright drive shaft means; and

conduit means establishing fluid communication between said hydraulic motors in such a manner that the motors share the load of driving the series of cutters.

32. In a machine as claimed in Claim 31,
said cutter bed having generally horizontally extending wall means spaced above the cutters having the first-mentioned and second drive shaft means projecting upwardly therefrom,
said first mentioned and second drive shaft means extending upwardly through and beyond said wall means,
said hydraulic motors being located above said wall means.

33. In a machine as claimed in Claim 32,
said series of cutters further including a pair of outer cutters disposed outboard of the cutters having said drive shaft means projecting upwardly therefrom,
said outer cutters each having upright driven shaft means projecting upwardly therefrom and operably coupled therewith,
said power means including mechanism operably coupling each drive shaft means with a corresponding ~~driven shaft means~~.

34. In a machine as claimed in Claim 33,
said mechanism being disposed above said wall means.

35. In a machine as claimed in Claim 33,
said machine including a crop discharge opening located behind at least certain of the cutters in the ~~series~~ set,
said outer cutters and said cutters having the drive shaft means projecting upwardly therefrom being disposed outboard of the discharge opening at opposite ends thereof.

39
36. In a machine for mowing crop materials, the improvement comprising:

a cutter bed including a series of rotary cutters extending across the path of travel of the machine and rotatable about individual upright axes,

said series of cutters including a group of cutters and at least one end cutter located outboard of the group of cutters,

said cutter bed further including an elongated housing beneath the group of cutters and power distributing means contained within the housing for the cutters of said group,

said cutter bed further including a support projecting longitudinally outwardly from at least one end of the housing and disposed beneath said at least one end cutter,

said support being devoid of power distributing means therein;

power means for supplying driving power to the cutters of said group and including upright drive shaft means operably coupled with at least one cutter of the group;

upright driven shaft means operably coupled with said at least one end cutter; and

mechanism operably coupling said driven shaft means with said power means externally of the support for driving said at least one end cutter.

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37. In a machine for mowing crop materials as claimed in Claim 39 36,

said mechanism being operably connected between said drive shaft means and said driven shaft means.

41
~~38~~. In a machine for mowing crop materials as claimed in Claim ~~37~~ 40,

said mechanism including an endless, flexible drive element entrained around said drive shaft means and said driven shaft means.

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~~39~~. In a machine for mowing crop materials as claimed in Claim ~~38~~ 41,

said drive element comprising a belt provided with means thereon for maintaining a synchronized relationship between the drive shaft means and a driven shaft means.

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~~40~~. In a machine for mowing crop materials as claimed in Claim ~~38~~ 41,

said drive element comprising a chain capable of maintaining the drive shaft means and driven shaft means in synchronized relationship.

44
~~41~~. In a machine for mowing crop materials as claimed in Claim ~~37~~ 40,

said mechanism including a set of intermeshing gears.

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~~42~~. In a machine for mowing crop materials as claimed in Claim ~~37~~ 40,

said mechanism including a gear box on each of said drive shaft means and driven shaft means,

said mechanism further including transfer shaft means extending between said gear box.

46
~~43~~. In a machine for mowing crop materials as claimed in Claim ~~36~~ 39,

said series of cutters further including at least one second end cutter at the opposite end of the

series from the first mentioned end cutter and located outboard of the group of cutters,

said cutter bed further including a second support projecting longitudinally outwardly from a second, opposite end of the housing and disposed beneath said at least one second end cutter,

said second support being devoid of power distributing means therein;

upright output shaft means operably coupled with a second cutter of the group;

second upright driven shaft means operably coupled with said at least one second end cutter; and

second mechanism operably coupling said driven shaft means with said output shaft means externally of the second support for driving said at least one second end cutter.

47
~~44~~. In a machine for mowing crop materials as claimed in Claim ~~43~~ 46,

said mechanisms for the end cutters of the bed each including an endless flexible drive element.

49
~~45~~. In a machine for mowing crop materials as claimed in Claim ~~44~~ 47,

said flexible drive element comprising a belt provided with synchronizing means.

49
~~46~~. In a machine for mowing crop materials as claimed in Claim ~~44~~ 47,

said flexible drive element comprising a chain provided with synchronizing means.

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47. In a machine for mowing crop materials as claimed in Claim 46,

said mechanisms each including a set of intermeshing gears.

51
48. In a machine for mowing crop materials as claimed in Claim 46,

said mechanisms each including a pair of gear boxes and transfer shaft means extending between the gear boxes.

52
49. In a machine for mowing crop materials as claimed in Claim 39,

further including means defining a crop discharge opening behind the cutter bed for receiving crop materials cut by the series of cutters,

said discharge opening having a pair of opposite ends,

said group of cutters having the first and last cutters of the group disposed adjacent said opposite ends of the discharge opening,

said first cutter of the group having said upright drive shaft means associated therewith and said last cutter of the group having upright output shaft means operably coupled with the last cutter,

said series of cutters further including at least one second end cutter at the opposite end of the series from the first mentioned end cutter and located outboard of the group of cutters,

said cutter bed further including a second support projecting longitudinally outwardly from a second, opposite end of the housing and disposed beneath said at least one second end cutter,

said second support being devoid of power distributing means therein;

second upright driven shaft means operably coupled with said at least one second end cutter; and

second mechanism operably coupling said driven shaft means with said output shaft means externally of the second support for driving said at least one second end cutter.

53
50. In a machine for mowing crop materials as claimed in Claim 52,

said first and last cutters in the group, and said first and second end cutters, all rotating generally inwardly toward the discharge opening across the front of the cutter bed for directing severed crop materials toward the discharge opening.

54
51. In a machine for mowing crop materials, the improvement comprising:

a cutter bed including a series of rotary cutters extending across the path of travel of the machine and rotatable about individual upright axes,

said series of cutters including a group of intermediate cutters and at least a pair of end cutters located outboard of the group at opposite ends thereof,

said cutter bed further including an elongated housing beneath the group of cutters and power distributing means contained within the housing for the cutters of said group,

said cutter bed further including a pair of supports projecting longitudinally outwardly from opposite ends of the housing beneath said end cutters,

said supports being devoid of power distributing means therein;

upright shaft means projecting upwardly from each of the first and last cutters in the group;

power means operably coupled with at least one of said upright shaft means for supplying driving power to the cutters of the group;

upright driven shaft means projecting upwardly from each of the end cutters; and

mechanism operably coupling said driven shaft means of the end cutters with said shaft means of said first and last cutters of the group externally of the supports for driving the end cutters.

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52. In a machine for mowing crop materials as claimed in Claim 54 51,

said power means including mechanically driven means coupled with said one shaft means of the group of cutters.

56

53. In a machine for mowing crop materials as claimed in Claim 54 51,

said power means including a pair of hydraulic motors operably coupled with respective shaft means of the first and last cutters of the group and means for supplying hydraulic fluid under pressure to said motors for operating the same.

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54. In a machine for mowing crop materials as claimed in Claim 56 53,

said power distribution means within the housing being operable to interconnect all of the cutters in said group with one another in an unbroken drive line,

said means for supplying hydraulic fluid under pressure including conduit means communicating said motors with one another during the application of

driving power to the shaft means of the first and last cutters of the group in a manner to cause the motors to share the load of driving all of the cutters of said group and all of the end cutters.

58
55. In a machine for mowing crop materials as claimed in Claim 54,

said mechanism including an endless flexible drive element between each driven shaft means and its respective upright shaft means.

59
56. In a machine for mowing crop materials as claimed in Claim 55,

said flexible drive element comprising a belt provided with synchronizing means.

60
57. In a machine for mowing crop materials as claimed in Claim 55,

said flexible drive element comprising a chain provided with synchronizing means.

61
58. In a machine for mowing crop materials as claimed in Claim 54,

said mechanism including a set of intermeshing gears for each driven shaft means and its respective upright drive shaft means.

62
59. In a machine for mowing crop materials as claimed in Claim 54,

said mechanism including a pair of gear boxes and transfer shaft means for each driven shaft means and its respective upright drive shaft means.

63
60. In a machine for mowing crop materials as claimed in Claim 59,

further including means defining a crop discharge opening behind the cutter bed for receiving crop materials cut by the series of cutters,

said discharge opening having a pair of opposite ends,

said group of cutters having the first and last cutters of the group disposed adjacent said opposite ends of the discharge opening.

64
61. In a machine for mowing crop materials as claimed in Claim 60,

said first and last cutters in the group, and said end cutters, all rotating generally inwardly toward the discharge opening across the front of the cutter bed for directing severed crop materials toward the discharge opening.

65
62. In a machine for mowing crop materials, the improvement comprising:

a cutter bed including a series of rotary cutters extending across the path of travel of the machine and rotatable about individual upright axes;

a crop discharge opening located behind the cutter bed for receiving severed crop materials from the series of cutters,

said discharge opening having a pair of opposite ends,

said series of cutters including a group of intermediate cutters positioned in front of said discharge opening with the first and last cutters of said group being located adjacent said opposite ends of the discharge opening,

said series of cutters further including at least a pair of opposite end cutters located outboard of

the first and last cutters of the group and outboard of said discharge opening;

means for driving the cutters of said group in oppositely rotating pairs for directing severed material between the cutters of each pair and into the discharge opening,

the first and last cutters of the group rotating generally inwardly toward the discharge opening across the front of the cutter bed; and

means for driving the end cutters in the same direction as their next adjacent first or last cutter of the group such that the end cutters and the first and last cutters of the group all rotate generally inwardly toward the discharge opening across the front of the cutter bed.

66
~~63~~. In a machine for mowing crop materials as claimed in Claim ~~62~~ 63,

said first and last cutters of the group each being provided with upright shaft means,

each of said upright shaft means being located outboard of said opposite ends of the discharge opening.

add 62